

SECTION A

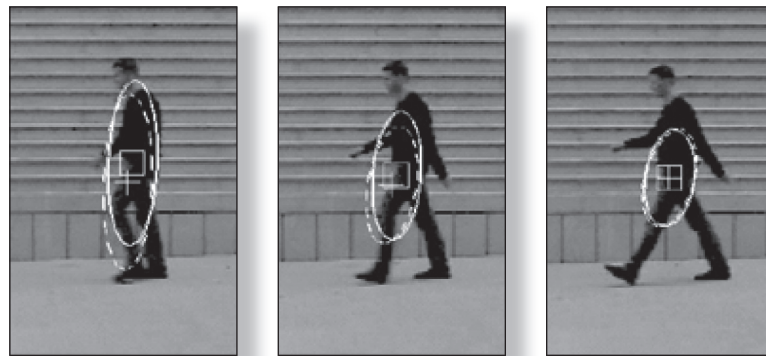
Answer **all** parts of the question.

Area of impact: Business and employment

1. Biometrics makes use of pattern recognition in order to identify individuals. It is no longer confined to major physical characteristics such as fingerprints. More subtle measures, such as a person's gait (the way a person walks), are now being used to identify individuals through video matching.

Recently, gait recognition using recorded video images was admitted as evidence in UK courts. One man was convicted of a burglary after experts used video matching to compare video images of him at the crime scene with images of him in custody.

[Source: http://news.bbc.co.uk/2/hi/programmes/click_online/7702065.stm, 15 October 2009]



[Source: adapted from <http://lfb.rwth-aachen.de/en/education/Workshop/s.meyer.html>, 23 March 2011]

- (a) Define the term *pattern recognition*. [2 marks]
- (b) In addition to fingerprints, describe **two** other methods of biometric recognition. [4 marks]
- (c) Explain why biometrics is increasingly used to authenticate employees entering a building. [4 marks]
- (d) Discuss the advantages and disadvantages of using the way a person walks (video gait pattern recognition) to verify the person's identity. [10 marks]